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TECHNICAL NOTES

ROCKY MOUNTAIN STATION

of the

ALASKA FOREST RESEARCH CENTER

STN PUB

U. S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE

JUNEAU, ALASKA

No. 1

First Records of Growth for Southeast Alaska's Young Stands

The first figures based on actual growth of young stands in Alaska were obtained by remeasuring 25 sample plots established 20 years ago. The growth data obtained confirm the need for cutting the old climax forest which is estimated to average only 4,000 merchantable cubic feet per acre. The second-growth which would replace it after logging, even though averaging 85 percent of the approximate "normal" stocking of these plots would, on an average site, produce more than double this volume per acre at 80 to 100 years of age.

The yield tables for Southeast Alaska published in 1934 ^{1/} indicated that this would be so. The table on the following page shows the growth actually made over a 20-year period on 25 of the original 288 sample plots used for the yield table. This check was not intended as a test of the accuracy of the yield tables, but more as a general confirmation of expected yields. With the pulp industry about to begin operations in Alaska it is necessary to be fairly sure that no mistake of any magnitude was made in growth potentials computed 20 years ago.

The yield tables are counted on only for an approximate estimate. More precise methods will be used in following the development of new stands that regenerate after pulptimber cutting. It is evident from the accompanying figures that the tables will not lead us too far astray in obtaining rough approximations of future yields.

^{1/} Yield of second-growth western hemlock-Sitka spruce stands in Southeastern Alaska. U. S. Dept. Agr. Tech. Bull. 412. March 1934.

Twenty Year Growth Record for 25 Plots^{1/}

Location	Plot No.	Age in 1948 years	D.B.H. of average tree in inches		Actual volumes per acre		Predicted volumes per acre	Dif-ference %	Actual growth per acre-year
			1928	1948	1928	1948	1948		20 years
Tuxekan Id.	6	77	4.6	6.0	1,895	3,343	3,989	+16.2	72
Taku Harbor	3	120	6.2	7.4	2,979	6,768	6,029	-12.2	189
Thorne Id.	3	92	5.9	7.5	5,745	7,577	6,570	-15.3	92
Lagoon Bay	2	98	6.3	8.0	4,363	6,435	6,423	—	104
Lagoon Bay	3	98	6.4	8.13	3,746	5,324	6,294	+15.4	79
Thorne Id.	2	92	6.4	8.15	5,448	7,913	6,923	-14.3	123
McKenzie (2)	1	79	6.5	8.72	6,413	9,760	7,980	-22.3	167
Lagoon Bay	7	98	7.5	9.55	7,089	9,206	8,100	-13.6	106
Old Kasaan	4	90	8.2	10.6	6,633	9,113	8,912	- 2.2	124
Taku Harbor	5	120	8.8	10.7	6,162	8,241	8,460	+ 2.6	104
Lagoon Bay	10	98	9.0	11.2	8,470	10,655	10,340	- 3.0	109
Lagoon Bay	5	98	8.8	11.2	6,934	10,241	10,442	+ 2.0	165
Whitewater B. (P.P.)	65	7.9	11.5	7,852	9,993	11,858	+15.7	107	
Windfall H.	9	82	9.4	12.5	7,437	10,134	11,550	+12.2	135
Kasaan Bay (2)	2	94	10.3	13.1	10,005	11,722	12,160	+ 3.6	85
Kasaan Bay (1)	3	94	11.1	13.6	8,727	12,091	12,600	+ 4.0	168
Tuxekan Pass (P.P.)	82	10.3	13.7	10,924	14,898	15,611	+ 4.6	199	
El Capitan	1	85	11.2	14.5	8,960	10,588	13,886	+23.7	81
El Capitan	2	85	11.0	14.5	8,373	10,248	14,840	+30.9	94
Kasaan Bay (1)	4	94	11.7	14.9	10,519	13,688	15,632	+12.4	158
Kasaan Bay (P.P.)	94	11.8	15.0	13,647	15,240	17,491	+12.8	80	
Kasaan Bay (1)	2	94	12.4	15.7	11,163	12,185	15,420	+21.0	51
Polk Inlet	4	170	14.5	16.3	11,897	15,010	16,170	+ 7.2	156
Tuxekan (1)	2	143	14.1	16.5	15,747	19,055	18,942	- 0.1	165
Tuxekan Id.(3)	7	143	20.8	24.5	18,492	23,477	24,300	+ 3.3	249
Averages		99.4	10.2	12.6	8,385	10,916	11,637	10.8	126

Standard error of estimate of volumes per acre + 13.5%

Aggregate difference 6.19% less than predicted.

^{1/} All volumes in merchantable cubic feet (trees 7 inches d.b.h. and larger, to a 6-inch top).